



Winter 2012

The Quarterly Hail

National Weather Service - Hastings, Nebraska

Volume 2, Issue 4



Notes From the Meteorologist In Charge

Greetings,

As we find ourselves exiting harvest season, we look towards winter. It is a time of many changes in our lives and in nature.

We at the National Weather Service promise to remain ever vigilant to doing our best to forecast hazardous weather during this period. We realize many people base decisions on our forecasts, especially when the snow starts to fly. It is truly amazing to contemplate how many lives are affected by our forecasts. School superintendents make some of the most difficult decisions concerning our children's health and safety during these upcoming months. Road crews adjust their schedules and sleep patterns to be ready to clean roads and temperature forecasts can determine which strategies they will employ to pretreat and ready their equipment. Of course, we all can't forget that we all run to the store as soon as we are confident that next storm is about to hit, so our grocery stores have to order extra supplies in advance.

In the office, we have been busy preparing for winter too. We have begun our annual training that has the forecasters review past winter systems and remind them of the challenges and changes winter forecasting bring. We are prepared to deal with whatever winter throws at us!

The office has also seen a change in staffing since our last publication. We have a new forecaster on staff. His name is Jeff Halblaub. He came from the Gaylord, Michigan forecast office where he was developing his forecasting skills in the NWS. Jeff brings the office experience in the "private sector" since he worked for several years at a private weather forecasting firm. Jeff arrived on station at the end of September and seems to be fitting in well!

As always, please remain weather aware and practice safe habits as we move into and through the winter of 2012-13.

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Special Points of Interest:

- Learn ways to become "Winter Aware".
- Do you want to visit a NWS Office?
- Learn about our recent outreach activities.
- What is the outlook for this winter?
- Drought continues across the area.

Happy Holidays!

Employee Spotlight - General Forecaster Angela Oder

I was born in Columbus, NE, and raised in nearby Osceola. I wanted to be a meteorologist ever since I was very young. One of my first memories of questioning how weather worked came while playing outside and it started to rain, but when I looked up to the sky, it confused me that I could see some sunshine and blue sky with the rain falling. Another came a few years later when a tornado touched down a few miles south of my house. I was terrified and cried, in my eyes only seeing a giant vacuum cleaner coming to send me and my family high into the sky! Everything turned out ok, but it did solidify my fascination with the weather.



After graduating from Osceola High School in 1995, I spent the next two years at Central Community College in Columbus, graduating with an associate's degree. Then it was on to the University of Nebraska - Lincoln, earning my bachelor's degree in 2001, and helping out as a teaching assistant for the introduction level meteorology lab my senior year. I spent the following two years enrolled as a graduate student and was a teaching assistant for the synoptic meteorology class/lab.

While I was an undergraduate at UNL, I got my first experience with the NWS in 2000, actually here at the Hastings office as a student volunteer during the summer. I was confident following this experience that I wanted to be in the NWS, but it would be a few years before that materialized. My first official weather job started in 2002 when I was hired as a Research and Validation Meteorologist with the Air Force Weather Agency, located at Offutt Air Force Base in Bellevue, NE. It was truly a privilege for me to work with and for our military. In December 2004, I was hired as an intern at the NWS office in North Platte, NE., where I got to learn more about this agency, forecasting and about a part of the state with which I was not as familiar. I'm happy I was part of an upper air office, and will never forget trying to launch and track weather balloons bright and early in the morning as well as in the evening in various conditions, including winter storms, high winds, and dense fog. In August 2007, I moved east to the Hastings office, and am primarily involved in the verification and fire weather programs.

When I'm not at work, I spend as much time as I can with my family and my boyfriend Ryan, who also happens to be a General Forecaster here in Hastings. I enjoy muscle cars, college sports and being a Husker fanatic. I also just finished up my 12th year of drag racing at Kearney Raceway Park (Go Mopar!).

I feel fortunate to be the exception to the rule in this agency, working in my first choice office and getting to forecast for my hometown. I enjoy the area, people and the challenges that come with working in an area that truly sees all four seasons.

Winter Word Search

Blizzard	New Year	Weather
Christmas	Rain	Wind
Cold	Sleet	Wind Chill
Fog	Snow	Winter
Freezing Rain	Snow Angel	Arctic
Frost	Snow Drift	Low Pressure
Holidays	Snowman	Cold Front
Ice	Sun	Flurries

D R E T N I W A N F E E K S T
F R M F Y V H W I B C O N E U
M W A C Y K P D A I B O E C Y
O S E Z K A W L R Y W L O E A
K Q C A Z O Z I G A S L R D N
S X I N T I X J N P D U G E N
N W T V S H L G I D S K W O B
O S C R Y H E B Z S C Y Q S F
W N R B A L O R E V E H J L J
D O A N D N E R E A W N I A R
R W W U I X P F R O S T B L J
I M I S L W X D F F K N K X L
F A N K O T N O R F D L O C Q
T N D L H F L U R R I E S W U
V N C H R I S T M A S T F S C

Be Winter Aware!

With fall upon the Great Plains, now is the time to focus attention to winter weather and the dangers it can pose to life and property. Each year, dozens of Americans die due to exposure to the cold. Account for vehicle accidents and fatalities, fires due to dangerous use of heaters and other winter weather fatalities, and you have a significant threat. Other hazards, such as hypothermia and frostbite, can lead to the loss of fingers and toes or cause permanent internal injuries and even death. The very young and the elderly are among those most vulnerable to the potentially harsh winter conditions. Recognizing the threats and knowing what to do when they occur could prevent the loss of extremities or save a life.



A winter storm can last for several days and be accompanied by high winds, freezing rain or sleet, heavy snowfall and cold temperatures. People can be trapped at home or in a car with no utilities or assistance, and those who attempt to walk for help could find themselves in a deadly situation. The aftermath of a winter storm can have an impact on a community or region for days, weeks, or possibly months.

Are you prepared?

When preparing your home or workplace for the upcoming winter season, keep in mind that the primary concerns deal with the loss of heat, power and telephone service, along with a shortage of supplies if a winter storm continues for an extended period of time. Along with your home and workplace, vehicles also need to be prepared for the upcoming winter season. It is very important to fully check your vehicle, which includes having a mechanic check things like your battery, antifreeze, ignition system, thermostat, lights, exhaust system, heater, brakes, and oil levels. If you must travel during winter conditions, it is best not to travel alone. Try to plan your travel during the day, and make sure to let others know your destination, route, and when you expect to arrive. Make sure to keep your gas tank near full to avoid ice in the tank and fuel lines.

In your car...

- Mobile phone, charger and batteries
- Flashlight with extra batteries
- First-aid kit
- Knife
- Shovel
- Tool kit
- Tow rope
- Battery booster cables
- Compass and road maps
- A windshield scraper and brush for ice/snow removal
- Blankets and sleeping bags
- Rain gear, extra sets of dry clothes, socks, mittens, and stocking caps
- Large empty can to use as emergency toilet. Tissues, paper towels, and plastic bags for sanitary purposes
- Small can and waterproof matches to melt snow for drinking water
- Cards, games, and puzzles
- High calorie, non-perishable food, such as canned fruit, nuts, and high energy "munchies"
- A small sack of sand or cat litter for generating traction under wheels and a set of tire chains or traction mats.
- A brightly colored (preferably red) cloth to tie to the antenna

In your home...

- Flashlight and extra batteries
- Battery-powered NOAA Weather Radio and portable radio to receive emergency information
- Extra food and water. Have high energy food, such as dried fruit, nuts and granola bars, and food which requires no cooking or refrigeration.
- Extra medicine and baby items
- First-aid supplies
- Heating fuel. Fuel carriers may not reach you for days after a winter storm.
- Emergency heat source: fireplace, wood stove, space heater. Use properly to prevent a fire, and remember to ventilate properly.
- Fire extinguisher and smoke alarm. Test smoke alarms once a month to ensure they work properly.

On the farm and for pets:

- Move animals into sheltered areas.
- Shelter belts, properly laid out and oriented, are better protection for cattle than confining shelters.
- Haul extra feed to nearby feeding areas.
- Have plenty of water available. Most animals die from dehydration in winter storms.
- Make sure your pets have plenty of food, water and shelter.

It's All For A Good Cause - *Briona Saltzman, Meteorologist Intern*

Employees of the NWS Hastings office have been rather busy this fall. Not only have staff members been working hard at our weather related duties, but this year we decided to take on a few “extra-curricular” activities. Each of these events, not only were fun for the staff members, but also were for a good cause. Starting off in September, employees took to the golf course! Indianhead Golf Course in Grand Island to be exact. This after work event allowed staff members and their families to get together and socialize, all while perfecting their swings and shooting some birdies. The evening was fun for all but not without some seriousness. Employees were asked to donate to a cancer supporting charity in honor of our late coworker and friend Larry Wirth, who lost his battle to cancer just over one year ago.

By the beginning of October, staff members were ready to go for our next event. This time, employees visited Kids Against Hunger in Hastings. This organization, solely made up of volunteers, is responsible for packaging formulated meals filled digestible protein, carbohydrates and vitamins to help feed starving children worldwide. The staff at NWS Hastings helped packaged 5400 meals in just one morning! Way to go guys!



With October defined as Breast Cancer Awareness month, the NWS Hastings office thought it was best to show support for the cause, not only for breast cancer but awareness of all types of cancers. Cancer Awareness Day was held on October 24th, 2012 as part of the kickoff for the Combined Federal Campaign (CFC). This campaign is an organization in which federal employees can donate to a variety of different charities all across the country. For the kickoff, employees wore different colored shirts to represent the various types of cancers (i.e. pink for Breast Cancer, lime for Lymphoma). A multitude of colors was represented from

yellow for Bone Cancer and Sarcoma, to dark blue for Colon Cancer. Instead of donations, staff members were urged to donate through the CFC which proudly supports a number of Cancer fighting charities.

NWS Hastings wrapped up the month of October in a “Spooktacular” way. A few employees spent an evening at a Halloween party at the Kearney Children’s Museum. Dressed in their costumes, the meteorologists talked weather with the children and even showed them how lightning works with the Van De Graff Generator.

As you can see, staff members have remained quite busy through the fall season. Each of these activities were very near and dear to our hearts as we continue to support good causes in our local and national communities and we urge you to do the same!



More Information About Being Winter Aware...

To find out more information about winter weather awareness, including:

- Terminology
- Road Conditions
- Safety Tips
- 2011-2012 Winter Snowfall State Map
- Dangers
- 2011-2012 Winter Season Review From All NWS Offices Covering Nebraska
- Travel Tips



Check out the following link to the 2012 Nebraska Winter Weather Awareness Information Packet:

<http://www.crh.noaa.gov/images/gid/WCM/awareness/WWAD2012.pdf>

Drought Continues Across the Coverage Area - Ryan Pfannkuch, General Forecaster

Although serious drought continues to persist across the entire area, a significant contrast in precipitation trends between opposite sides of the NWS Hastings coverage area has really emerged over the past several months. In general, the northwest one-third of the area has continued to sink deeper and deeper into dramatic precipitation deficits, while localized parts of mainly the southeast one-third of the area have actually measured no worse than slightly below normal precipitation since August or September. A prime example of this contrast can be illustrated by a comparison of recent precipitation totals between Ord and Hastings, Nebraska and Beloit, Kansas. Starting with the Ord Airport, total precipitation since September 1st has been a meager 0.50", or 10% of normal. Moving southeast into central portions of the area, total precipitation since September 1st at the Hastings Airport has measured 2.70", which is 49% of normal. At Beloit, Kansas, the precipitation has totaled 4.22", or 78% of normal.

After a very hot June and July, monthly average temperatures since August have trended back to near or even below normal. In fact, October featured the most widespread coverage of below normal monthly temperatures since September 2011. The entire coverage registered its first widespread killing freeze between October 6-7th, or about 2 to 3 weeks earlier than the 30-year average. For most, this was the earliest hard freeze since at least 2000. Despite this early first freeze, the 2012 growing season was still among the longest, if not the longest, on record thanks to an incredibly early last freeze this past spring.

Looking back at how drought issues first started, the beginning stages can be traced back to March-May 2012, when nearly the entire coverage area recorded its warmest spring season on record. However, serious problems did not really take hold until June and July, when the combination of well above normal temperatures and well below normal precipitation arrived just in time for the peak crop growing season. The primary culprit for the pronounced heat and lack of rain from May through July was a dominant ridge of high pressure in the upper atmosphere. Fortunately, a substantial change in this pattern arrived in early August as the ridge became more centered over the southwestern United States, allowing cooler air to infiltrate the Central Plains.

Over the meteorological summer season of June through August as a whole, Grand Island recorded its driest summer out of 117 years on record, measuring only 2.37", or 8.45" below normal. For the year 2012 through November 20th, Grand Island continues on a pace to possibly establish the driest calendar year on record, with a year-to-date total of 9.85" remaining ahead of the second driest year-to-date total of 10.73" in 1934.

The tables here highlight precipitation statistics for selected sites across the coverage area during the May 1st - November 20th period, or roughly dating back to the initial onset of drought conditions in many areas. From these tables, it is readily apparent that most of the area has only measured between 20-60% of normal precipitation since May 1st, with the driest zone clearly centered over those areas in Nebraska north of Interstate 80 and west of Highway 281.

Location North Central Kansas	Precipitation May 1 - Nov 20	Normal	Departure From Normal	% of Normal
Alton 2 SW	7.57	19.39	-11.82	39
Beloit	12.17	20.86	-8.69	58
Burr Oak	11.30	19.94	-8.64	57
Logan	6.43	16.99	-10.56	38
Plainville 4 WNW	10.71	18.88	-8.17	57
Smith Center	7.41	19.43	-12.02	38

Location South Central Nebraska	Precipitation May 1 - Nov 20	Normal	Departure From Normal	% of Normal
Cambridge	7.49	17.03	-9.54	44
Lexington 6SSE	5.66	18.26	-12.60	31
Clay Center 6ESE	16.96	20.94	-3.98	81
Elwood 8S	6.81	17.91	-11.10	38
Franklin	9.34	19.82	-10.48	47
Fullerton	7.46	20.67	-13.21	36
Geneva	13.46	22.48	-9.02	60
Grand Island Airport	6.40	20.14	-13.74	32
Greeley	6.21	20.22	-14.01	31
Hastings Airport	13.15	20.95	-7.80	63
Hebron	15.26	23.53	-8.27	65
Holdrege	8.50	20.79	-12.29	41
Kearney Airport	6.77	19.26	-12.49	35
Minden	9.60	20.60	-11.00	47
Ord Airport	4.03	19.21	-15.18	21
Osceola	13.07	21.22	-8.15	62
Ravenna	4.44	20.33	-15.89	22
Red Cloud	8.81	19.97	-11.16	44
St. Paul	6.76	19.85	-13.09	34
York 3N	9.85	21.65	-11.80	45

Our Doors Are Open! - *Briona Saltzman, Meteorologist Intern*

Have you ever wondered what it looks like inside the National Weather Service office?

Well come on by and find out! Our doors are open to tours most weekdays during “normal business hours”. We accept tours as small as one person up to about 30 people. We do ask that you call and schedule your tour ahead of time, and in the event of severe weather the tour will be canceled. To schedule your tour call 402-462-2127.

A few of the more recent tours in the office included a group of Midshipmen from the United States Naval Academy and a school tour from the Mosaic School in Hastings.



Midshipmen from the U.S. Naval Academy

The Midshipmen stopped by this summer on their way across the country. As part of their specialized course study in the Naval Academy, the group was on a two week long severe weather storm chase across the Midwest. Never having seen a National Weather Service office before, the Midshipmen and their advisors stopped in for a tour of the Hastings office as well as a weather briefing for the upcoming chase. Sadly, the drought had an impact on their chase that particular day but they got to visit a great office!

The Mosaic school brought a group of students to the Hastings Office. They learned all about the weather service office. Topics ranged from what is the weather to how to forecast the weather, and how to become a meteorologist. Hopefully some of those kids will grow up to be meteorologists!

If you happen to be in the area, stop by and say Hi!

Cooperative Observer News

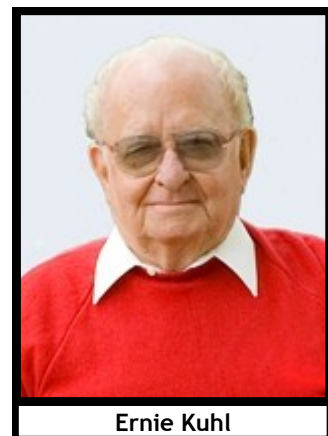
This year has been quite active in the COOP program with a few changes to our volunteers over the past few months.

We added a new station at Aurora 4N with Roy and Mary Lou Emanuel as the observers. We think they will be wonderful observers and give us much needed data from Aurora.

Sadly, our observer at Orleans 2W for the past 20 years, Ernest Kuhl, passed away in September. We will miss him. He did a wonderful job calling in his precipitation reports and also checking the level of the Republican River during possible flooding events. This station has been temporarily inactivated. If anyone knows of someone in the Orleans area interested in measuring the precipitation, please let us know.

This year we have also had several observers reach milestones in their length of service. Congratulations to those observers receiving awards! They are listed as follows:

- ♦ Lawrence Wohleb (Naponee) - Helmut E. Landsberg Award - 60 years
- ♦ William Murphy (Covert, KS) - Dick Hagemeyer Award - 45 years
- ♦ Bob Levin (Smith Center, KS) - Dick Hagemeyer Award - 45 years
- ♦ Tom Klanecky (Ord #2) - 30 years
- ♦ Todd Johnson (Upland 2 NE)- 20 years
- ♦ Wayne Wondercheck (Fullerton 3 NW) - 20 years
- ♦ Troy Fletcher (Oxford 6 NNW)- 10 years
- ♦ Millard Graham (Miller) - 10 years
- ♦ Sue Malander (Belgrade) - 10 years



Ernie Kuhl

This Table Reflects Various Historical Winter Extremes Across The Area...

	Warmest Christmas High Temperature On Record	Coldest Christmas High Temperature On Record	Coldest Christmas Low Temperature On Record	Highest Three-Month Snowfall Total (Dec.-Feb.)	Highest 2-Day Snowfall Total (Dec.-Feb.)
Grand Island	62° / 1999, 1963, 1922	7° / 1983	-16° / 1983, 1924	63.2" / 1914-15	15.1" Feb. 17-18, 1984
Hastings	62° / 1999, 1950	8° / 1983	-13° / 1983	42.0" / 2009-10	16.0" Feb. 3-4, 1903
Kearney	65° / 1931	5° / 1983	-17° / 1983	42.5" / 1968-69	18.0" Dec. 3-4, 1924
Greeley	65° / 1963	7° / 2000	-18° / 1983	36.5" / 1992-93	12.2" Dec. 5, 1910
Hebron	58° / 1938	-7° / 1983	-15° / 1983	41.2" / 2000-01	12.5" Feb. 22-23, 1971
Alton KS	73° / 1950	15° / 2000	-11° / 1924	37.0" / 1931-32	17.0" Feb. 26, 1912
Smith Center KS	65° / 1963	8° / 1983	-14° / 1983	26.7" / 1992-93	10.2" Feb. 7-8, 1980

Winter Climate Outlook Detailed Below...

The latest Winter Outlook from the Climate Prediction Center indicates equal chances of experiencing above normal, below normal, or near normal temperatures and precipitation across South Central Nebraska and North Central Kansas.

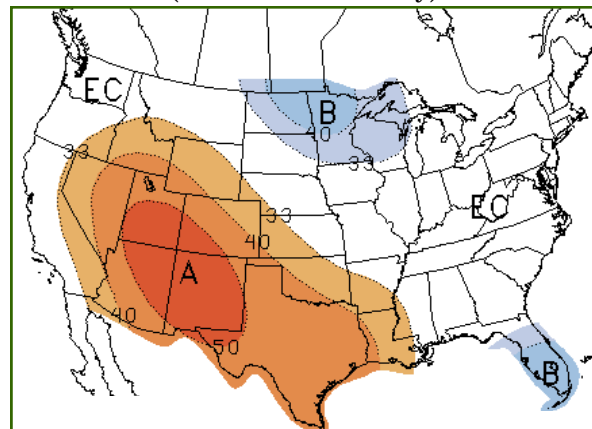
Time Frame: The NWS considers the “Winter” season to be all of December, January and February.

Temperature: The outlook on the right reflects a forecast for the 3-month period as a whole. We tend to view temperatures in the context of a daily or monthly average, but the 3-month outlook accounts for the entire season. **Red/Orange** colors represent “warmer” than normal and **Blue** colors represent “cooler” than normal. The white area labeled “EC” designates regions with Equal Chances of having above, near or below normal temperatures. This means there is no clear trend in the forecast analysis to support one of these outcomes over another. As the image shows, the winter forecast for South Central Nebraska and North Central Kansas favors this equal chances category, although areas just to the southwest of the local area are slightly favored to experience above normal readings.

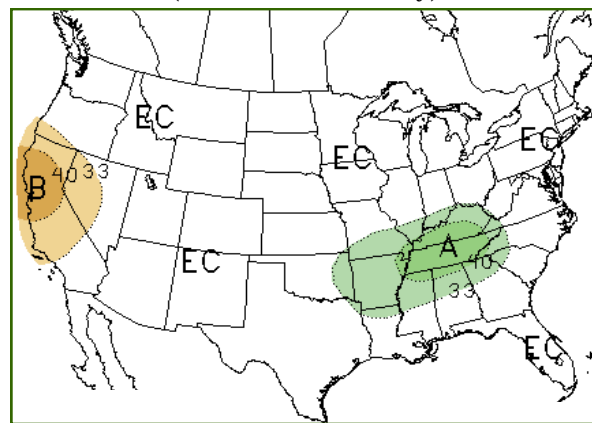
Precipitation: Similar to temperatures, the precipitation outlook depicts the precipitation forecast for the entire 3-month period, and is independent of individual days or months. **Green** colors represent “wetter” than normal and **brown** colors represent “drier” than normal. The white “Equal Chances” area is also present and covers the majority of the nation, including the local area. This reflects equal chances of experiencing above, near or below normal precipitation. Again, this outlook does not forecast *how much* above (or below) normal precipitation might be.

To recap, the outlook for Winter 2012-13 (Dec.-Jan.-Feb.) indicates generally equal chances of above normal, below normal or near normal temperatures and precipitation.

**Temperature Outlook for Winter 2012-13
(December-February)**



**Precipitation Outlook for Winter 2012-13
(December-February)**



To view these and other Climate Prediction Center outlooks visit <http://www.cpc.ncep.noaa.gov/>

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Meet the Rest of the Staff at WFO Hastings

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Steve Eddy

Warning Coordination Meteorologist

Mike Moritz

Science and Operations Officer

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Data Acquisition Program Manager

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Electronic Systems Analyst

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Carol Cartier

Administrative Assistant

Victor Schoenhals

Electronics Technician

Mike Bergmann

Meteorological Intern / Hydrometeorological Technicians

Briona Saltzman • Joe Guerrero / Mike Reed • Phil Beda



Lead Forecasters

Merl Heinlein • Jeremy Wesely • Cindy Fay

Shawn Rossi • Scott Bryant

General Forecasters

Julia Berg • Angela Oder

Ryan Pfannkuch • Jeff Halblaub